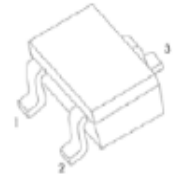


### N-channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	$I_D$
30V	4@10V	150mA
	8Ω@4.5V	

### SOT-523



1. GATE
2. SOURCE
3. DRAIN

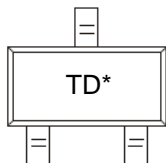
### FEATURE

- Low on-resistance
- Fast switching speed
- Low voltage drive makes this device ideal for Portable equipment
- Easily designed drive circuits
- Easy to parallel

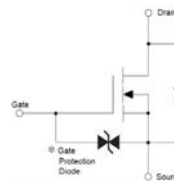
### APPLICATION

- Interfacing , Switching

### MARKING



### Equivalent Circuit



### MOSFET MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$V_{DS}$	Drain-Source Voltage	30	V
$V_{GS}$	Gate-Source Voltage	±20	V
$I_D$	Continuous Drain Current	0.15	A
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	833	$^\circ\text{C} / \text{W}$
$P_D$	Power Dissipation	0.15	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~+150	$^\circ\text{C}$

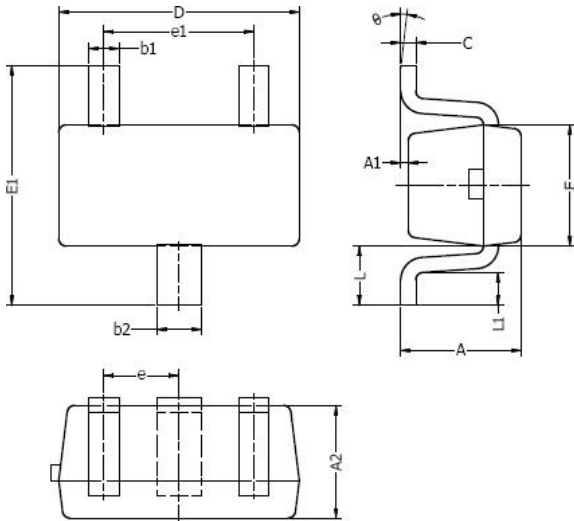
## MOSFET ELECTRICAL CHARACTERISTICS

$T_a=25^\circ\text{C}$  unless otherwise specified

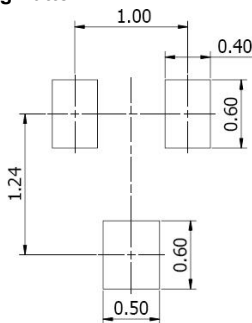
Parameter	Symbol	Test Condition	Min	Typ	Max	Units
<b>Off Characteristics</b>						
Drain-Source Breakdown Voltage	$V_{DS}$	$V_{GS} = 0V, I_D = 10\mu A$	30			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 30V, V_{GS} = 0V$			1	$\mu A$
Gate -Source leakage current	$I_{GSS}$	$V_{GS} = \pm 20V, V_{DS} = 0V$			$\pm 2$	$\mu A$
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = 3V, I_D = 100\mu A$	0.6		1.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 200mA$		2.6	4	$\Omega$
		$V_{GS} = 4.5V, I_D = 150mA$		6	8	$\Omega$
Forward Transconductance	$g_{FS}$	$V_{DS} = 3V, I_D = 10mA$	20			mS
<b>Dynamic Characteristics*</b>						
Input Capacitance	$C_{iss}$	$V_{DS} = 5V, V_{GS} = 0V, f = 1MHz$		13		pF
Output Capacitance	$C_{oss}$			9		pF
Reverse Transfer Capacitance	$C_{rss}$			4		pF
<b>Switching Characteristics*</b>						
Turn-On Delay Time	$t_{d(on)}$	$V_{GS} = 5V, V_{DD} = 5V,$ $I_D = 10mA, R_g = 10\Omega, R_L = 500\Omega,$		15		ns
Rise Time	$t_r$			35		ns
Turn-Off Delay Time	$t_{d(off)}$			80		ns
Fall Time	$t_f$			80		ns

\* These parameters have no way to verify.

## SOT-523 Package Outline Dimensions



### Typical Soldering Pattern:



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.70	0.90	0.028	0.035
A1	0.00	0.10	0.000	0.004
A2	0.70	0.80	0.028	0.031
b1	0.15	0.25	0.006	0.010
b2	0.25	0.35	0.010	0.014
c	0.10	0.20	0.004	0.008
D	1.50	1.70	0.059	0.067
E	0.70	0.90	0.028	0.035
E1	1.45	1.75	0.057	0.069
e	0.50 TYP.		0.020 TYP.	
e1	0.90	1.10	0.035	0.043
L	0.40 REF.		0.016 REF.	
L1	0.10	0.30	0.004	0.012
$\theta$	0°	8°	0°	8°

### NOTES:

1. Above package outline conforms to JEITA EAIJ ED-7500A SC-75A.
2. Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.